

A NEW HAEMATOPOTA FROM NEPAL (DIPTERA: TABANIDAE)

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ABSTRACT—A new tabanid fly, *Haematopota stonei*, is described from Nepal.

A new species of biting flies is described from Nepal, where it was found to be abundant and annoying to man and domesticated elephants. Stone and Philip (1974) have recently published a monograph of the Oriental species of the tribe Haematopotini. My new species is described with reference to that publication.

Haematopota stonei Thompson, new species

Female.—Length: 8.3–10.4 mm (average 9.8 mm); wing 8.5–10.3 mm (9.7 mm); antenna 1.7–2.1 mm (2.0 mm) (18 specimens measured).

Head: Frons gray, brownish near vertex, about $\frac{3}{4}$ as wide at vertex as high, distinctly wider below; midfrontal spot usually absent, rarely indistinctly brownish; paired spots black, usually subtriangular, separated from eyes and callus; callus usually black, rarely partially brownish orange, with lower corner just touching eye or very narrowly separated from it, with upper margin trilobed, with lower margin deeply concave; interantennal spot strong, black; face and lower parafacials pale grayish white, rarely with slight trace of an incomplete blackish band across upper face; upper parafacials solid black; beard white. Scape about 2 times as long as height at apex, slightly narrowed toward base, yellowish on basal $\frac{2}{3}$ and ventrally, black dorsoapically, all grayish-white pollinose, mainly long black pilose, with a few long white ventral hairs; pedicel light yellowish orange, black pilose, with dorsal projection strong; flagellum brownish orange, except apical flagellomere dark brown on apical $\frac{1}{2}$; 1st flagellomere compressed, with its greatest height slightly greater than length of style, with its length subequal to that of scape; apical flagellomere about as long as 2nd and 3rd together. Palpus pale orange white, light grayish-white pollinose, white and black pilose.

Thorax: Scutum white and black pilose, brownish gray, with paler grayish pattern as follows: Laterally on humerus, entirely on notopleuron and supraalar callus, and in form of 3 slender lines anteriorly, with submedial ones broader, pair of submedial spots at ends of transverse suture and another pair on hind margin of scutum in front of scutellum. Scutellum gray, white and black pilose. Pleuron gray, long white pilose. Halter white, with partially dark knob. Squamae with upper lobe brownish, lower lobe white. Wing pale brown with grayish-white markings in typical *Haematopota* pattern except as follows: No subapical band in marginal cell, 1 subapical band in 1st submarginal cell, usually with spots at bases of furcation and 2nd and 3rd posterior cells, all bands narrow and broken up. Legs: Coxae very pale gray, pale grayish-white pollinose, white pilose; trochanters yellowish brown, sparsely pollinose, white pilose; femora

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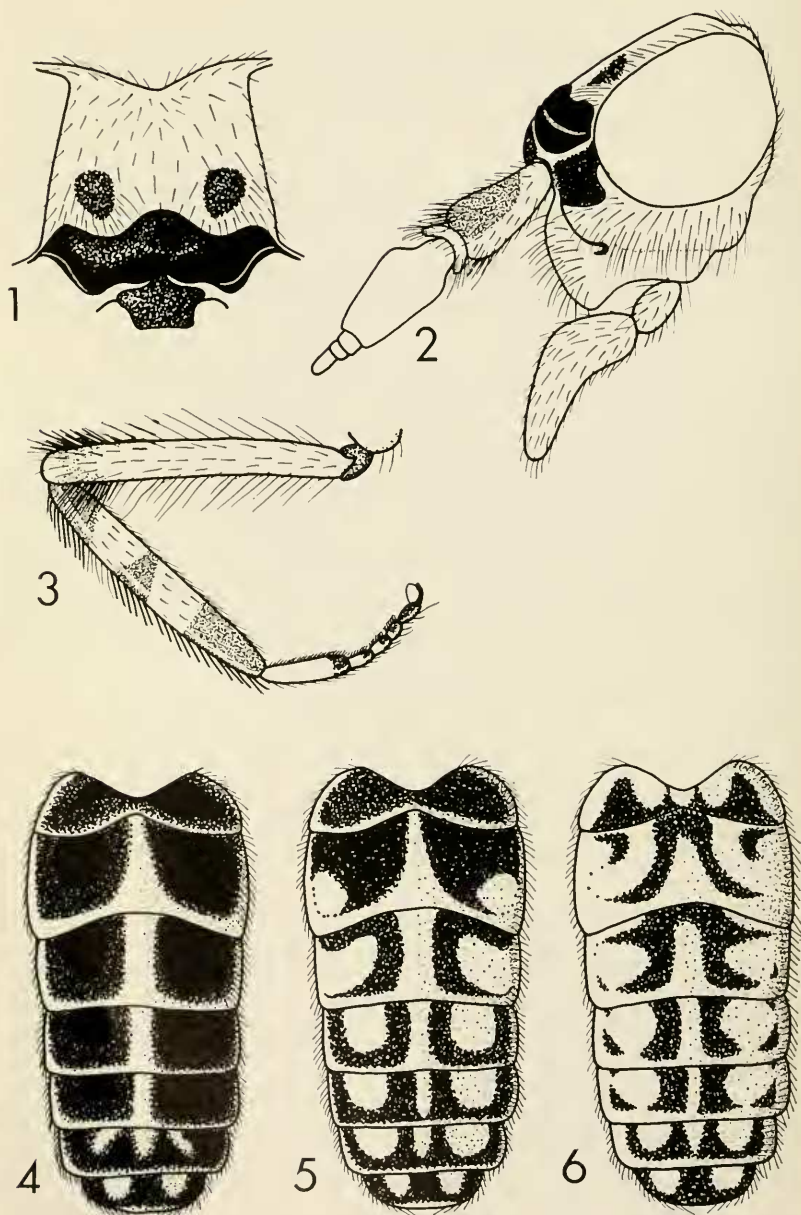


Fig. 1-3, 5. *Haematopota stonei*. 1, front. 2, head. 3, hind leg. 5, abdomen.
 Fig. 4. *H. assamensis*, abdomen. Fig. 6, *H. crossi*, abdomen.

pale yellow except rarely brownish subapically, pale grayish pollinose, largely long white pilose, black pilose on apical $\frac{1}{4}$, with hind femoral hairs long and forming subapical tufts; fore tibia slightly swollen, about as wide as femur, with basal $\frac{1}{3}$ pale yellowish white, with apical $\frac{2}{3}$ brownish, sparsely light grayish pollinose, black pilose except for subbasal band of white hairs; middle tibia pale yellowish brown, except for 2 submedial yellow bands, sparsely light grayish pollinose, black pilose on dark areas, white on yellow bands; hind tibia slightly swollen, slightly wider than femur, with fringe of long hairs on dorsal margin, pale yellowish brown, except for 2 submedial yellow bands, long black pilose except for subbasal band of white hairs; front tarsus black, black pilose; middle and hind tarsi yellow on basal $\frac{2}{3}$ of basitarsi and narrowly on bases of 2nd through 4th tarsomeres, rest of tarsi brown, black pilose.

Abdomen: Dorsum mainly appressed black pilose, white pilose on 1st, basal $\frac{1}{2}$ of 2nd and sides of all terga, dark brownish gray except pale gray as follows: On sides and apical margins of all terga, in form of mid-dorsal stripe on all terga and paired sublateral spots always on 4th through 7th terga and frequently on 2nd and 3rd terga. Venter pale gray, except more brownish on 7th sternum, white pilose except with stiff black hairs on 7th sternum.

Holotype, ♀, Chitawan, NEPAL, 30 March 1974, J. C. Seidensticker, deposited in U. S. National Museum. Paratypes, 19 ♀♀, same data as holotype, deposited in California Academy of Sciences, Collection of C. B. Philip, Canadian National Collection, and U. S. National Museum.

Variations: The type series is fairly uniform in respect to the taxonomic characters used here and in Stone and Philip (1974). In a few specimens: 1) the mid frontal spot is present but very indistinct; 2) the gray pollinose median stripe on the scutum is complete, reaching the scutellum; 3) the gray pollinose crescentic prescutellar spots are complete and quite distinct; 4) the pale spot at the base of the furcation of vein R 4 + 5 is absent; 5) the gray pollinose spots on the 2nd tergum are present but weak; and 6) the gray pollinose spots on the 3rd tergum are indistinct. Three additional specimens were collected along with the type series. Two of these are undoubtedly representatives of another new species, similar to *stonei* but smaller (body length, 8.1–10.4 mm; wing length, 7.5–10.2 mm), much paler and more brownish in color, with a yellow and medially rugose frontal callus, and a much longer and narrower 1st antennal segment. The poor condition of these specimens prevents their description. The third specimen may also represent a new species, although, except for its overall pale coloration and pale scutellum, it agrees well with *stonei*.

Habitat: "These flies first appeared near the end of March (1974), when the stifling hot season began in this region of the Nepal *terai*. They did not seem to occur in riverine forest or in the tall-grass areas (3 mm in height) but they were numerous at the interface of the tall grass and Sal (*Shorea robusta*) dominated forest which covers the hills. Surface water was available in the area where they were col-

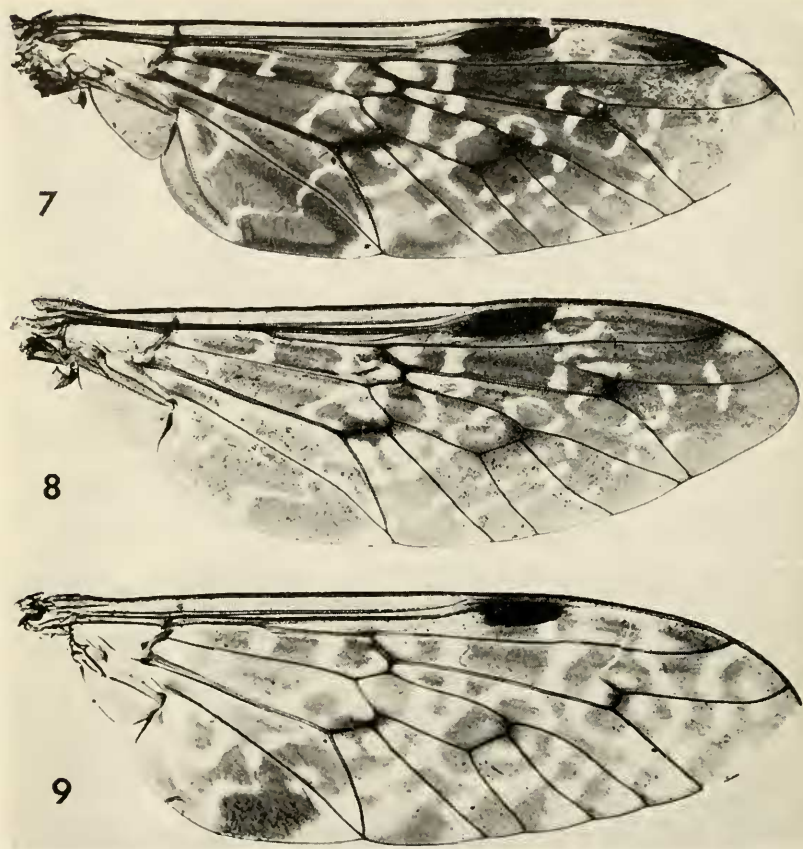


Fig. 7-9. Wings of *Haematopota* species. 7, *assamensis*. 8, *stonei*. 9, *crossi*.

lected even through the hot season. These flies were biting the ears of our domestic elephant, a species no longer present in the local wild fauna, but did not particularly bother the driver or myself." (Seidensticker, in litt.).

Haematopota stonei is closely related to both *crossi* Stone & Philip and *assamensis* Ricardo; *crossi* is smaller, somewhat petite, and much paler in color, whereas both *assamensis* and *stonei* are distinctly larger, more robust, and darker in color, with *assamensis* the darkest of the three (for precise measurements, see above and Stone and Philip, 1974). The principal differences between these species are listed in the following modification to Stone and Philip's key to the Oriental species of Haematopotini.

It is with great pleasure that I name this species after Dr. Alan Stone, who needs no introduction to dipterists as his work clearly speaks for him.

Modification to the Key to the Oriental Species of *Haematopotini*
(Stone & Philip, 1974)

- 1.-22. no change.
- 23. Squamae all white; frontal callus sharply attenuate laterally, broadly separated from eyes, yellowish brown (Stone & Philip, 1974:213, fig. 16); abdomen with large sublateral gray spots on all terga (fig. 6); notopleuron almost completely white pilose; wing with broad apical and posterior markings, 1 subapical band in marginal cell, 2 subapical bands in 1st submarginal cell, pale spots at bases of furcation, 2nd and 3rd posterior cells (fig. 9) (India (Punjab), Nepal) *crossi* Stone & Philip
- Squamae with upper lobe (alar) brownish, with lower lobe (thoracic) white; frontal callus not sharply attenuate laterally, touching or very narrowly separated from eyes, usually brownish black (fig. 1); abdomen usually with distinct large sublateral gray spots on 3rd through 7th terga, rarely with such spots on all terga, always with such spots on apical 4 terga (fig. 5); notopleuron largely black pilose; wing with narrow, broken apical and posterior markings, without subapical band in marginal cell, only 1 subapical band in 1st submarginal cell, usually with pale spots at bases of furcation, 2nd, and 3rd posterior cells (fig. 8) (Nepal) *stonei* Thompson, new species
- Squamae all light brown; frontal callus not sharply attenuate laterally, narrowly touching eyes, usually black (Stone & Philip, 1974:212, fig. 17); abdomen with only small sublateral gray spots on 6th and 7th terga (fig. 4); notopleuron largely black pilose; wing with narrow broken apical and posterior markings, without subapical band in marginal cell, only 1 subapical band in 1st submarginal cell, without pale spots at bases of furcation, 2nd, and 3rd posterior cells (fig. 7) (India (Assam), Thailand, Vietnam) *assamensis* Ricardo
- 24.-41. no change.
- 42. Hind femur pale on basal $\frac{3}{4}$ or more; hind margin of scutum usually with transverse pair of strong gray crescentic spots 43
- Hind femur dark brown to black on basal $\frac{3}{4}$ or more; hind margin of scutum without such markings 45
- 43. Scutellum rather distinctly bicolored, base pale 44
- Scutellum unicolorous or distal part paler than basal part 23
- 44.-180. no change.

I thank Dr. John C. Seidensticker, National Zoological Park, Smithsonian Institution, Washington, D. C., not only for collecting the *Haematopota stonei* material and donating it to the U. S. National Museum, but also for his valuable notes on its ecology. I also thank Drs. Alan Stone and Corneluis Philip for their comments on the status and relationships of this species. The fieldwork in Nepal was supported by grants from the World Wildlife Fund (U. S. Appeal) while Dr. Seidensticker was the principal investigator of the Smithsonian's Nepal Tiger Ecology Project.

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NOTE

**MACROCHELES INSIGNITUS BERLESE (ACARINA:
MACROCHELIDAE) PHORETIC ON NILOBEZZIA SCHWARZI
(COQUILLET) (DIPTERA: CERATOPOGONIDAE)¹**

Most records of mites associated with biting midges have involved larval mites. Recently Grogan and Navai (1975, Proc. Entomol. Soc. Wash. 77:214-215) reported adult phytoseiid mites, *Amblyseius* sp. on *Culicoides schultzei* Enderlein. This was apparently the first record of an adult mite on a ceratopogonid as well as the first record for the order Parasitiformes on this fly family.

On 4 July 1975 W. E. Steiner collected some small insects attracted to lights at Wittman, Talbot Co., Maryland. An examination of the ceratopogonids collected revealed a female *Nilobezzia schwarzi* (Coquillett) with an unusually large mite attached to its abdomen. These were preserved in 70% ETOH and sent to P. H. Vercammen-Grandjean for identification, who forwarded them to G. W. Krantz. The mite was identified by Krantz as an adult *Macrocheles insignitus* Berlese, a predaceous species often phoretic on houseflies (Krantz, 1975, personal communication). This is apparently the first record of this mite family (Macrochelidae) phoretic on ceratopogonids, and the second record of the order Parasitiformes on these flies. The mite is deposited in the acarology collection of the National Museum of Natural History (USNM).

I would like to thank Gerald W. Krantz and Paul H. Vercammen-Grandjean for identification of the mite, and Warren E. Steiner for the specimens.

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